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FORAGE NEWS

For more forage information, visit our UK Forage Extension Website at: <http://www.uky.edu/Ag/Forage>

April 2011

Garry D. Lacefield and S. Ray Smith, Extension Forage Specialists • Christi Forsythe, Secretary

KENTUCKY ALFALFA CONFERENCE WINS OUTSTANDING EXTENSION PROGRAM AWARD

The Kentucky Alfalfa Conference was recognized with the Outstanding Extension Program Award at the Kentucky Association of State Extension Professionals meeting during the awards ceremony in Lexington on March 11. Congratulations to all who have participated and assisted with this program over the past 31 years.

APRIL GRAZING SCHOOL

The Kentucky Grazing School will be held April 13 & 14, 2011 at the UKREC in Princeton. Registration is limited to 45 in order to accommodate full activities including fence building, water system installation, pasture evaluation and determining pasture carrying capacity.

Programs begin on April 13 at 7:30 a.m. with registration and refreshments. Program details are on our website under "Upcoming Events".

Registration fee is \$50.00 which includes materials, grazing manual, breaks and two lunches. To register, make checks payable to: **Kentucky Forage and Grassland Council** and send to

Lyndsay Jones, 804 W.P. Garrigus Building
 University of Kentucky, Lexington, KY 40546-0215

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BEST PRACTICES TO HASTEN FIELD DRYING OF GRASSES AND ALFALFA

Those of you that attended the 31st Kentucky Alfalfa Conference heard Dr. Dan Undersander's excellent presentation on hay harvesting. He and his colleagues have just released a new publication "Best practices to hasten field drying of grasses and alfalfa". It can be viewed as a pdf file at:

<http://learningstore.uwex.edu/Assets/pdfs/A3927.pdf> and on our website. Hard copies are available for purchase through the UM Extension Publication Learning Store at:

<http://learningstore.uwex.edu/Best-Practices-to-Hasten-Field-Drying-of-Grasses-and-Alfalfa-P1485.aspx>.

MATURITY DETERMINES FORAGE QUALITY

Of all the factors affecting hay quality, stage of maturity when harvested is the most important and the one in which greatest progress can be made. As legumes and grasses advance from the vegetative to reproductive (seed) stage, they become higher in fiber and lignin content and lower in protein content, digestibility, and acceptability to livestock. The optimum stages of maturity to harvest for yield-quality-persistence compromise is usually when plants are making a transition from vegetative (leafy) to reproductive (flower-seed) stage. Making the first hay cut early permits aftermath growth to begin at a time when temperature and soil moisture are usually more favorable for plant growth and generally increases total yield per acre. After mowing, poor weather and handling conditions can lower hay quality. Rain can cause leaf loss and can leach nutrients from plants during curing. Sunlight can lower hay quality through bleaching and lowering Vitamin A content. Raking and/or tedding dry, brittle hay can cause excessive leaf loss. Hay plants with an 80 percent moisture content must lose approximately 6,000 pounds of water to produce a ton of hay at 20

percent moisture. Crushing stems (conditioning) at time of mowing will cause stems to dry at more nearly the same rate as leaves. Conditioning will usually decrease the drying time of large-stemmed plants by up to a day and can result in leaf and nutrient savings. Raking and/or tedding while hay is moist (about 40 percent moisture) and baling before hay is too dry (below 15 percent moisture) will help reduce leaf losses. Store to minimize loss, preserve quality and feed for efficiency. For more information on forage quality see "Understanding Forage Quality"

<http://www.uky.edu/Ag/Forage/ForageQuality.pdf>.

UK SWITCHGRASS FOR BIOMASS PROJECT ONLINE LEARNING MODULES NOW AVAILABLE ON OUR WEBSITE

The University of Kentucky Switchgrass for Biomass project has recently published two online learning modules showcasing the success of the program. The first module released is entitled "Switchgrass Stories: UK's Switchgrass Biomass Project" and gives an overview of the project and highlights the harvesting, pelleting and utilization of switchgrass as it is converted to electrical energy. Video footage is included from all four years of the project and introduces the viewer to producer Tom Malone and Hay Marketing Specialist Thomas Keene. The second learning module is a detailed look at four fields in the project, the challenges faced by the producers and how these were overcome. Narrated by Thomas Keene, the "Switchgrass for Biomass Project: Highlights from the University of Kentucky" is a short slide show that illustrates the suitability of switchgrass to marginal cropland. A third learning module, "A Decision Aid for Switchgrass for Biomass vs. Hay Production" will be released soon. This learning module is a walkthrough of the UK Decision Aid that will help producers determine if switchgrass production is profitable for them compared to hay production. The decision aid spreadsheet file can be downloaded from the forages website and customized to reflect the producer's actual situation and predict profitability.

Links to these learning modules can be found at <http://www.uky.edu/Ag/Forage/Forage%20Decision%20Aids.htm> under the "biofuels and forages" tab of the forage publications.

INVASIVE SPECIES' ABUNDANCE SIMILAR AT NATIVE AND INTRODUCED SITES

Many land managers know firsthand the damage invasive species can do to natural resources, but no one knows exactly why these species are able to out compete native plants.

This is not just a Kentucky problem, as invasive species are common throughout the world. A long-held theory, developed by biologists, hypothesizes that invasive plants are more numerous in introduced sites compared to their native, or home, range, because an ecological change occurs during their invasion that gives them an advantage over native plants. This theory is known as the abundance assumption

An international team of scientists that included University of Kentucky College of Agriculture's Rebecca McCulley tested the abundance assumption on 26 invasive plant species at 39 grassland locations on four continents. Their results found that most species (20 of 26) had similar or lower abundances at the introduced sites compared to their home range sites.

McCulley and her lab members contributed two sites to the study, a pasture at Spindletop Farm in Lexington and Hall's Prairie, a restored native tallgrass prairie in Logan County. Eight species from both sites

were considered invasive and included in the study. For the most part, the invasive species from Kentucky fell in line with the international findings. However, two species from Spindletop, Kentucky bluegrass and plantain, were more common here than their native sites.

McCulley added that some species in the study, like Kentucky bluegrass, aren't necessarily considered invasive by everyone, but were chosen because they were considered invasive by enough people to make a country's invasive species list.

"In Kentucky, we don't consider some of the species on the list to be invasive. They are widespread throughout the state and have proven beneficial to our forage systems," said McCulley, a grassland agroecologist. "However, they aren't native to the United States, and some states do consider them to be invasive and problematic."

One species found in Kentucky, Canada thistle, is widely considered an invasive, noxious weed that threatens ecosystems throughout North America. Results from this study indicate this species tends to be less abundant in its invasive range than in its home site worldwide.

"The results suggest that it's relatively unusual for invasive plants to have a population explosion at introduced sites," McCulley said. "Instead, abundance at native sites, in most cases, can predict abundance at introduced sites."

In addition, the scientists' findings held up across diverse climate zones. McCulley said sites in Kentucky, New Zealand and Switzerland had as many as six shared species, all with similar plant abundances.

These findings might help scientists speculate how new invasive species will behave once introduced into a foreign site.

The group, known as the Nutrient Network, was funded by a research coordination network grant from the National Science Foundation's Division of Environmental Biology. The UK College of Agriculture also helped fund McCulley's research.

The Nutrient Network is the first group bringing together international scientists to conduct grassroots level research to evaluate the human impact on ecological systems at more than 40 grassland sites worldwide.

"The research was simple, but because of the global collaboration, the Nutrient Network will provide a new, global approach for addressing many critical ecological issues," she said. "It will tell us information we need to know about invasive species and changing climates, as well as alterations to nutrient availability."

The group's findings were published in the journal *Ecology Letters*. This was the network's first published study. (SOURCE: *Katie Pratt, UK Ag. Communications News Release, March 7, 2011*)

NAFA DESCENDS ON DC TO TALK ALFALFA

The National Alfalfa & Forage Alliance (NAFA) captured the attention of lawmakers during its inaugural legislative "Fly-In" in Washington, DC, February 14-17 in what turned out to be an extremely successful week. NAFA members took to Capitol Hill to meet with members of Congress, focusing specifically on House and Senate Agriculture and Agriculture Appropriations Committee members, to stress the need for funding the Alfalfa and Forage Research Program (AFRP) authorized in the 2008 Farm Bill. NAFA representatives also met with the U.S. Trade Representative's Office (USTR) to discuss alfalfa seed export issues; the Environmental Protection Agency to discuss crop protection tools; and USDA's Risk Management Agency (RMA), Agricultural Research Service (ARS), and the National Institute of Food and Agriculture (NIFA) to talk about crop insurance and research funding respectively. NAFA also met with the National Agricultural Statistics Service (NASS) to talk about alfalfa, hay, and forage-related statistics.

In total, nearly 100 meetings were scheduled, giving NAFA members ample time to educate Congressional members about the importance of the nation's 3rd most valuable field crop and the urgency in being recognized in policy and research funding decisions.

In addition to congressional visits, NAFA held concurrent House and Senate staff briefings giving staff members a primer on alfalfa and forage. NAFA brought in its "heavy-hitters" to talk about everything from alfalfa genetics to its environmental benefits. Presentations included:

From Lab to field: Toolbox for Decoding Alfalfa's Secrets -
Maria Monteros, The Samuel Roberts Noble Foundation - Ardmore, OK

Invigorating America's Rural Communities: Alfalfa as a Feed, Fuel & Industrial Feedstock -
Neal Martin, U.S. Dairy forage Research Center - Madison, WI

Not Your Grandparents' Alfalfa: 20 Million Acres of Private & Public Benefits -
Dan Putnam, University of California - Davis, CA

Firmly Rooted: Alfalfa Helps Protect the Nation's soil, Air & Water Resources -

Michael Russelle, USDA-ARS - St. Paul, MN

However, the week's highlight may have been NAFA's "Alfalfa on the Hill: Bluegrass Style" reception which gave members of Congress and their staffs the opportunity to visit informally with NAFA members about alfalfa and forage crops.

The reception featured an 'alfalfa'-intensive menu which included miniature cheeseburgers, grilled baby lamb chops, beef nega maki, assorted cheeses, vegetables with alfalfa sprout dip, beef bourguignon, and ice cream bars. With nearly 200 in attendance, the reception was a hit with both NAFA members and Congressional staff.

Overall, NAFA members who participated in the event were extremely pleased with the positive response they received on Capitol Hill. A total of 29 states were represented by NAFA members in its inaugural fly-in. (SOURCE: *NAFA News, March 11, 2011*)

BEEF COW NUMBERS DECLINE DURING 2010

In late January, USDA released their annual Cattle Inventory report, which estimated the size of the US cowherd. As expected, beef herd liquidation continued during 2010 despite the stronger fall markets. US beef cow numbers fell by 1.6%, which was largely consistent with pre-report estimates. The number of heifers held for beef replacements may have been the biggest surprise of the report, falling by about 5%. With fewer cows and less heifer development, the 2011 calf crop will clearly be smaller than 2010.

Of course drought was a factor on many Kentucky beef cattle operations last year. Many began feeding hay in mid-summer and reports of hay shortages are becoming more common. This was no doubt part of the reason why Kentucky beef cow numbers continued to decrease. Also, rising production costs and increased competition for land for row crop production were at play. Kentucky beef cow numbers were estimated to be down by 47,000 (-4%). Kentucky's cow herd has decreased by 184,000 cows since January of 2007.

Since cow herd expansion is clearly not underway, it is worth revisiting some cattle cycle basics. The initial sign of expansion is an increase in heifer retention rates. Once this happens, it takes approximately two years for those heifers to be developed, bred, and to wean their first calves. Therefore, even if expansion were to begin in 2011 (and I want to stress the "if"), we are still at least two years away from seeing larger calf crops. So, while there are some clear market risks, including beef demand and grain prices, beef supplies should remain very tight over the next few years. (SOURCE: *Kenny Burdine, UK Agricultural Economist, in U.K. Economic and Policy Update, Vol. 11, No. 2, February 28, 2011*)

USDA JANUARY 1, 2011 CATTLE INVENTORY ESTIMATES

	2010 (1,000 hd)	2011 (1,000 hd)	2011 as % of 2010
Total Cattle and Calves	93,881.2	92,582.4	99
Cows and Heifers That Have Calved	40,456.4	40,014.2	99
Beef Cows	31,370.9	30,864.6	98
Milk Cows	9,085.5	9,149.6	101
Heifers Over 500 Lbs	19,745.8	19,532.8	99
Beef Replacement	5,451.0	5,157.6	95
Milk Replacement	4,526.2	4,557.2	101
Other Heifers	9,768.6	9,818.0	101
Steers Over 500 Lbs	16,510.4	16,382.0	99
Bulls Over 500 Lbs	2,190.1	2,153.1	98
Calves Under 500 Lbs	14,978.5	14,500.3	97
Cattle on Feed	13,642.2	14,022.9	103
	2009	2010	
Calf Crop	35,939.0	35,684.8	99

SOURCE: NASS, USDA

UPCOMING EVENTS

- APR 13-14 Kentucky Grazing School, UK Research & Education Center, Princeton
- JUN 13-15 AFGC Annual Meeting, French Lick, IN
- JUL 21 UK All Commodity Field Day, Princeton

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